

**REMARKS/ARGUMENTS**

Upon entry of the present reply, claims 1-20 will remain pending with claim 1 being the sole independent claim.

Reconsideration and allowance of the application are respectfully requested.

**Claim Of Priority**

Applicants express appreciation for the acknowledgment of the claim of priority as well as receipt of the certified copy in this national stage application.

**Consideration Of Information Disclosure Statements**

Applicants express appreciation for the inclusion with the Office Action of a copy of the initialed Form PTO-1449, whereby the Examiner's consideration of Applicants' Information Disclosure Statement filed April 8, 2002 is record.

**Restriction Requirement**

Applicants express appreciation for the withdrawal of the Restriction Requirement and an action on the merits of each pending claim, i.e., claims 1-20.

**Response To Rejection Based Upon Prior Art**

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gudin et al., (hereinafter "Gudin"), U.S. Patent No. 5,179,012, in view of Tassigny, Action of Calcium on the Growth of *Axenic Demids*" (Abstract)

In this ground of rejection, it is contended that Gudin basically discloses Applicants' invention except for the addition of 100 mg/l of potassium bicarbonate to the culture medium, and separating the microalgae from the culture medium by centrifuging and filtering the culture medium on an appropriate filter for separating the extract to produce the claimed heat-stable extract.

The rejection contends that Tassigny beneficially teaches that a potassium salt can be added to a culture medium containing a microalgae for the purpose of maintaining growth of a microalgae.

From this, the rejection concludes that it would have been obvious to modify Gudin to include the beneficial teachings of Tassigny because the combined teachings would create an improved method of preparing a heat-stable extract whereas the improved heat-stable extract would intrinsically have the claimed functional effects.

The rejection basically contends that any differences between Gudin and Applicants' claimed invention are a matter of judicial selection and routine optimization.

In response to this ground of rejection, Applicants initially note that Applicants' independent claim 1 is directed to a method of obtaining a heat-stable extract having antioxidant and wound-healing activity from a culture medium of microalgae, comprising first culturing the microalgae in a photobioreactor subject to appropriate lighting and controlled conditions of temperature, pH, and supply of carbon dioxide, adding 100 mg/l of potassium bicarbonate to the culture medium after a period of six to twelve days, then closing the photobioreactor for a period of one to three days to obtain oxygen

supersaturation, then separating the microalgae from the culture medium by centrifuging, and finally filtering said culture medium on an appropriate filter for separating the extract.

In contrast to the assertions in the rejection, Applicants respectfully submit that the prior art of record does not teach or suggest a method as recited in independent claim 1 and dependent claims 2-4; extracts recited in dependent claims 5-9, 17 and 18; a polymer as recited in claim 10; a dietetic composition as recited in claims 11 and 19; a food product as recited in claims 12 and 20; a cosmetic product as recited in claim 13; or an anti-inflammatory composition as recited in claims 14 and 16.

For example, Gudin discloses crushing of the algae and addition of solvent to extract the antioxidants. For example, the Examiner's attention is directed to Gudin column 3, beginning at line 59 wherein it is disclosed that:

The dissolving of the microorganisms (stage c) makes it possible to adjust the concentration of the juice of the microorganisms with a view to improving the crushing conditions. The optimum microorganism concentration for the crushing stage is between 20 and 100 g/liter of dry matter, as a function of the species used and their growth stage.

The "crushing" stage serves to shatter or burst the microorganisms in order to render the entire cellular content accessible to the solvent. It is carried out in a homogenizer, where the microorganisms are subject to an alternation of pressures and vacuums.

In contrast, Applicants' method includes centrifuging to extract the microalgae, and then collection of the extracts by filtration.

Moreover, Gudín discloses re-injection of the oxygen collected. For example, the Examiner's attention is directed to Gudín column 6, beginning at line 56, wherein it is disclosed that:

This gaseous oxygen is collected in a collector 50 and then reinjected into the carbonator 38 with the aid of a pipe 49. The recycling of the gaseous oxygen takes place at the bottom of the carbonator 38.

In said carbonator, the oxygen is redissolved in the culture medium. In order to assist the passage of the oxygen into the culture medium, the upper part of the carbonator is equipped with a conical deflecting plate 51.

In contrast, according to Applicants' method the photoreactor is sealed in order to naturally increase the oxygen concentration in photosynthesis.

Gudín discloses adding carbon dioxide during the re-injection of oxygen, such as disclosed in Gudín at column 6, beginning at line 65. In contrast, Applicants' method includes the addition of potassium bicarbonate.

Applicants method produces extracts having wound-healing ability. Moreover, the extracts according to the present invention include extracts including polysaccharides. Also, the extracts include extracts having thermostable SOD-like activity at 120° for 20 minutes.

Tassigny is added to the rejection solely in an attempt to overcome only one deficiency of Gudín wherein the rejection contends that it would have been obvious to modify Gudín to include the beneficial teachings of Tassigny that a potassium salt can be added to a culture medium containing a microalgae for the purpose of maintaining growth of a microalgae, because the combined teachings would create an improved method of

preparing a heat-stable extract whereas the improved heat-stable extract would intrinsically have the claimed functional effects.

Applicants respectfully submit that one having ordinary skill in the art would not have been motivated to combine Tassigny and Gudin in the manner set forth in the rejection, especially when Gudin discloses such a particular process for the production and extraction of antioxidants from a micro-organism culture such as including the re-injection of oxygen and the addition of carbon dioxide therewith.. However, even if for the sake of argument the disclosures were combined, any combination of the two documents would not arrive at Applicants' disclosed and claimed invention.

The rejection does not establish each and every feature recited in Applicants' claims, but merely asserts that various features of Applicants' claims are deemed merely a matter of judicial selection and routine optimization which is well within the purview of the skilled artisan. However, the rejection does not indicate what is meant by judicial selection and/or what routine optimization should be performed. In this regard, the differences noted above, are not mere judicial selection or optimization, but provide a different method and different products.

Applicants respectfully submit that an obviousness rejection cannot be supported by mere allegations that it would have been obvious to arrive at Applicants' invention. The Examiner is reminded that a rejection must be based upon documentary evidence, and not merely official notice. In this regard, the Examiner's attention is directed to MPEP 2144.03 wherein it is noted that, "If the applicant traverses such an assertion the examiner should

cite a reference in support of his or her position.” In the instant situation, Applicants respectfully submit that the rejection is improper as not utilizing documentary evidence to support the position taken in the rejection. The rejection merely makes an assertion of obviousness, but does not support this assertion by documentary evidence. There is not the slightest documentary evidence to arrive at Applicants’ disclosed and claimed invention.

Thus, in the unlikely event that the rejections are maintained, Applicants request that the rejections be modified to include documentary evidence supporting the position taken in the rejections.

Moreover, attention is directed to In re Ahlert and Kruger, 424 F.2d 1088, 165 USPQ 418, 420-421 (CCPA 1970), which is cited in MPEP 2144.03. In Ahlert, at 165 USPQ 421, it is stated that:

Typically, it is found necessary to take notice of facts which may be used to supplement or clarify the teaching of a reference disclosure, perhaps to justify or explain a particular inference to be drawn from the reference teaching. The facts so noticed serve to “fill in the gaps” which might exist in the evidentiary showing made by the examiner to support a particular ground of rejection. We know of no case in which facts judicially noticed comprised the principal evidence upon which a rejection was based or were of such importance as to constitute a new ground of rejection when combined with the other evidence previously used.

In the instant case, the rejection improperly utilizes assertions, which can at best be characterized to be considered Official Notice, not to “fill in the gaps”, but to provide a complete reasoning behind modification of the primary reference. Accordingly, Applicants submit that it is improper to make such naked assertion in the instant case, and a

reference must be utilized in the rejection that not only discloses Applicants' recited concept, but also provides motivation for modifying the documents to include Applicants' recited features. This would afford Applicants an opportunity to address issues of lack of motivation for combining separate disclosures as well as an opportunity to argue against any asserted combination.

Thus, Applicants respectfully submit that the only teaching or suggestion that would lead one having ordinary skill in the art to arrive at Applicants' invention is within Applicants' disclosure, and the use of such disclosure by the Examiner is improper. In order to support the conclusion that the claimed invention is either anticipated or rendered obvious over the prior art, the prior art must either expressly or inherently teach the claimed invention or the Examiner must present a convincing line of reasoning why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. Ex parte Clapp, 227 U.S.P.Q. 972 (B.O.A. 1985).

Accordingly, the rejections should be withdrawn as improper, and all of the claims should be indicated as allowable over the prior art.

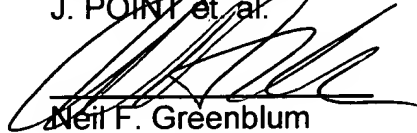
### **CONCLUSION**

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the rejections of record, and allow each of the pending claims.

Applicants therefore respectfully request that an early indication of allowance of the application be indicated by the mailing of the Notices of Allowance and Allowability.

Should the Examiner have any questions regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
J. POINT et. al.



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